

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (Currently amended). A method for screening and identifying molecules that mediate neuronal cell survival in the absence of neurotrophic factors and transactivate a neurotrophic receptor, comprising assay A or assay A in combination with either or both of assay B and assay C, wherein:

assay A comprises:

treating neuronal cells, PC12 cells, or N2a neuroblastoma cells with a candidate ~~small-molecule activator~~ transactivator molecule;

reacting the neurotrophic receptor, obtained from a cell lysate of the treated cells, with an anti-phosphotyrosine antibody specific for the phosphorylated form of the neurotrophic receptor; and

detecting binding of the anti-phosphotyrosine antibody to ~~[[a]]~~ the phosphorylated form of the neurotrophic receptor to identify a ~~small-molecule~~ transactivator molecule of the neurotrophic receptor that mediates neuronal cell survival in the absence of neurotrophins by transactivating the neurotrophic receptor;

assay B comprises:

treating neuronal cells, PC12 cells, or N2a neuroblastoma cells with a candidate ~~small-molecule~~ transactivator molecule;

reacting either phosphatidylinositol 3'-kinase (PI3-K), obtained from a cell lysate of the treated ~~neuronal~~ cells, with an anti-phospho-PI3-K antibody specific for the phosphorylated form of PI3-K or Akt, obtained from a cell lysate of the treated ~~neuronal~~ cells, with an anti-phospho-Akt antibody specific for the phosphorylated form of Akt; and

detecting binding of the anti-phospho-PI3-K antibody to the phosphorylated form of PI3-K or binding of the anti-phospho-Akt antibody to the phosphorylated form of Akt to identify a ~~small-molecule~~ transactivator molecule of the neurotrophic receptor and its downstream Akt target; and

assay C comprises:

culturing neuronal cells, PC12 cells, or N2a neuroblastoma cells in the presence of neurotrophic factors;

treating and culturing the neuronal cells with a candidate ~~small-molecule~~ transactivator molecule in the absence of neurotrophic factors; and

determining the level of cell survival to identify a ~~small-molecule~~ transactivator molecule of the neurotrophic receptor, wherein an increase in cell survival, or a decrease in

cell death, over a control in which the cells are cultured in the absence of neurotrophic factors and the candidate transactivator molecule, identifies a transactivator molecule.

2 (Previously presented). The method of claim 1, wherein the neurotrophic receptor is a Trk receptor.

3 (Original). The method of claim 2, wherein the Trk receptor is TrkA receptor.

4 (Currently amended). The method of claim 3, wherein the ~~neurenal~~ cells are PC12 ~~neurenal~~ cells.

Claim 5 (Cancelled).

6 (Currently amended). The method of claim 1, wherein the candidate ~~small molecule~~ transactivator molecule is a ligand of a G protein coupled receptor (GPCR).

7 (Previously presented). The method of claim 1, wherein the neurotrophic receptor is a Ret receptor.

8 (Currently amended). The method of claim 7, wherein the ~~neurenal~~ cells are N2a neuroblastoma cells.

9 (Currently amended). The method of claim 1, wherein, in the reacting and detecting steps of assay B, Akt is reacted with anti-phospho-Akt antibody and ~~specific~~ binding of anti-

phospho-Akt antibody to the phosphorylated form of Akt is detected.

10(Currently amended). The method of claim 9, wherein assay B further comprises:

reacting Akt, obtained from a cell lysate of the treated neuronal cells, with an anti-Akt antibody; and

detecting ~~specific~~ binding of the anti-Akt antibody to Akt ~~to provide an assessment of the relative level of phosphophosylated Akt and the extent of activation.~~

11(Currently amended). The method of claim 1, wherein in the reacting and detecting steps of assay B, PI3-K is reacted with anti-phospho-PI3-K antibody and ~~specific~~ binding of anti-phospho-PI3-K antibody to the phosphorylated form of PI3-K is detected.

12(Currently amended). The method of claim 11, wherein assay B further comprises:

reacting PI3-K, obtained from a cell lysate of the treated neuronal cells, with an anti-PI3-K antibody; and

detecting binding of the anti-PI3-K antibody to PI3-K ~~to provide an assessment of the relative level of phosphophosylated PI3-K and the extent of activation.~~